

THE GENUS *CLIVIA* LINDLEY (AMARYLLIDACEAE), AN UNUSUAL NEW HOST PLANT RECORD FOR THE QUEENSLAND FRUIT FLY *BACTROCERA TRYONI* (FROGGATT) (DIPTERA: TEPHRITIDAE) AND A NEW FRUIT FLY DISTRIBUTION RECORD IN QUEENSLAND

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Abstract

The dacine fruit fly species *Bactrocera tryoni* (Froggatt) has been reared from *Clivia miniata* (Lindley) Regel under field conditions in Toowoomba, Australia. *Bactrocera (Queenslandacus) exigua* (May) has been recorded from southeast Queensland, the first record outside northeast Queensland.

Introduction

Extensive trapping and host recording for the tephritid subfamily Dacinae in South East Asia, Australia and islands of the South Pacific, since the mid 1980s, provided extensive host plant and geographic distribution records but revealed only one record of a fruit fly species breeding in the plant family Amaryllidaceae (Allwood *et al.* 1999, Hancock *et al.* 2000). That is a single record of *Bactrocera papayae* Drew & Hancock in *Crinum asiaticum* L. in South East Asia (Allwood *et al.* 1999).

The genus *Clivia* (Amaryllidaceae) is endemic to South Africa (Koopowitz 2002). Four species have been introduced to Australia, where they have been cultivated as ornamentals. *Clivia miniata* (Lindley) Regel has many varieties, with most possessing 10-20 funnel-shaped flowers on an umbel. They have been cultivated by one of the authors (R. May) in the garden of St Vincents Hospital, Toowoomba, for more than 20 years.

New host record for *B. tryoni*

In March 2000, four fruit from a *C. miniata* variety were observed (by R. May) to be prematurely desiccated. They were placed on sawdust in an aerated container and 15 specimens of *Bactrocera tryoni* (Froggatt) subsequently emerged. The seeds from the fruit were not damaged as they germinated when planted.

In January 2002, a female *B. tryoni* was observed ovipositing in fruit of *C. miniata* var. *citrina*. It was photographed *in situ*, then captured and preserved for positive identification.

New distribution record for *B. exigua*

Bactrocera (Queenslandacus) exigua (May) has been known previously only from the holotype male, collected at Atherton, northeast Queensland in December 1955, and a female collected at Wallamen Falls, northeast Queensland in January 1975 (May 1957, Drew 1989).

Recently, through sweep-netting rainforest margins, a further male was collected in southeast Queensland. This record is as follows: Mt Glorious (680 m) [nr Brisbane], 27°19'53"S, 152°45'48"E, 24.x.2002, B. Merz. This specimen has been deposited in the Queensland Museum, Brisbane.

Discussion

While some 50% of all dacine species are monophagous (Drew 1989), the major pest species such as *B. tryoni* and *B. papayae* have a wide host range (Allwood *et al.* 1999, Hancock *et al.* 2000). Plant families with the most host plant species utilised by these fly species are Myrtaceae, Rosaceae and Sapotaceae. *Bactrocera tryoni* utilises host plants from over 30 plant families but has never been recorded previously from the Amaryllidaceae. The fruiting bodies of *Clivia*, especially, are unique and unlike the soft fleshy fruits of the normal dacine host plants.

The record of *B. exigua* from southeast Queensland is of particular interest. This species probably occurs in very low populations and, because it does not respond to male lures, is not readily collected. The fact that it occurs in both northern and southern Queensland suggests that other species thought to have restricted distributions might also be more widespread.

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Dr Bernhard Merz, Museum of Natural History, Geneva, Switzerland, collected the *B. exigua* specimen and donated it for study.

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